



ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18
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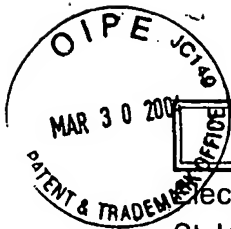
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Application Number: 10/731674							
Confirmation Number: 4281							
First Named Applicant: Daniel Lenehan							
Attorney Docket Number:							
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US Patent Documents							
Note: Applicant is not required to submit a paper copy of cited US Patent Documents							
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21	5964092	1999-10-12	Tozuka et al.	
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24	5978220	1999-11-02	Frey et al.	
25	5997713	1999-12-07	Beetz, Jr. et al.	
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31	6054034	2000-04-25	Soane et al.	
32	6068752	2000-05-30	Dubrow et al.	
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38	6126723	2000-10-03	Drost et al.	
39	6129145	2000-10-10	Yamamoto et al.	
40	6131650	2000-10-17	North et al.	
41	6146103	2000-11-14	Lee et al.	
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45	6174675	2001-01-16	Chow et al.	B1
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Signature

Examiner Name	Date
<i>LV Curio</i>	<i>1/8/07</i>



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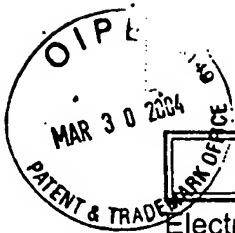
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<p>Application Number: 10/731674</p> <p>Confirmation Number: 4281</p> <p>First Named Applicant: Daniel Lenehan</p> <p>Attorney Docket Number:</p> <p>Search string: (3654988 or 3817321 or 3823572 or 3923426 or 3929154 or 4109707 or 4194559 or 4248295 or 4138996 or 4485429 or 4561040 or 4664181 or 4866570 or 4894709 or 4896719 or 4908112 or 5009760 or 5058627 or 5070040 or 5088005 or 5096388 or 5099311 or 5099910 or 5125451 or 5131233 or 5203401 or 5218515 or 5219278 or 5232047 or 5239200 or 5263251 or 5274920 or 5309319 or 5317805 or 5325265 or 5336062 or 5380956 or 5383340 or 5427174 or 5436793 or 5514906 or 5544696 or 5548605 or 5579828 or 5585069 or 5459099 or 5641400 or 5692558 or 5696405 or 5703536).pn.</p> <p>US Patent Documents</p> <p>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</p> <table border="1"><thead><tr><th>init</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td><input checked="" type="checkbox"/></td><td>1</td><td>3654988</td><td>1972-04-11</td><td>Clayton, III</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>2</td><td>3817321</td><td>1974-06-18</td><td>von Cube et al.</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>3</td><td>3823572</td><td>1974-07-16</td><td>Cochran, Jr.</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>4</td><td>3923426</td><td>1975-12-02</td><td>Theeuwes</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>5</td><td>3929154</td><td>1975-12-30</td><td>Goodwin</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>6</td><td>4109707</td><td>1978-08-29</td><td>Wilson et al.</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>7</td><td>4194559</td><td>1980-03-25</td><td>Eastman</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>8</td><td>4248295</td><td>1981-02-03</td><td>Ernst et al.</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>9</td><td>4138996</td><td>1979-02-13</td><td>Cartland</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>10</td><td>4485429</td><td>1984-11-27</td><td>Mittal</td><td></td><td></td><td></td></tr></tbody></table>								init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass	<input checked="" type="checkbox"/>	1	3654988	1972-04-11	Clayton, III				<input type="checkbox"/>	2	3817321	1974-06-18	von Cube et al.				<input type="checkbox"/>	3	3823572	1974-07-16	Cochran, Jr.				<input type="checkbox"/>	4	3923426	1975-12-02	Theeuwes				<input type="checkbox"/>	5	3929154	1975-12-30	Goodwin				<input type="checkbox"/>	6	4109707	1978-08-29	Wilson et al.				<input type="checkbox"/>	7	4194559	1980-03-25	Eastman				<input type="checkbox"/>	8	4248295	1981-02-03	Ernst et al.				<input checked="" type="checkbox"/>	9	4138996	1979-02-13	Cartland				<input checked="" type="checkbox"/>	10	4485429	1984-11-27	Mittal			
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Signature

Examiner Name	Date
<i>SV Clinic</i>	<i>1/8/07</i>



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Note: Applicant is not required to submit a paper copy of cited US Published Applications

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Signature

Examiner Name	Date
<i>LVC</i>	1-8-07

FORM PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-01901

Serial No.: 10/731,674

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Use Several Sheets If Necessary)

Applicants: Daniel J. Lenehan et al.

Filing Date: December 8, 2003

Group Art Unit: ~~3735~~ 3749

(37 CFR § 1.98(b))

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AB	2000-277540	10/06/00	JP	H01L	21/50		X

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AD	Kendra V. Sharp et al., "Liquid Flows in Microchannels", 2002, Vol. 6, pages 6-1 to 6-38.					
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AG	J. H. Wang et al., "Thermal-Hydraulic Characteristic of Micro Heat Exchangers", 1991, DSC-Vol. 32, Micromechanical Sensors, Actuators, and Systems, pages 331-339.					
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AM	Lung-Jieh Yang et al., "A Micro Fluidic System of Micro Channels with On-Site Sensors by Silicon Bulk Micromachining", September 1999, Microfluidic Devices and Systems II, Vol. 3877, pages 267-272.					
AN	G. Mohiuddin Mala et al., "Heat transfer and fluid flow in microchannels", 1997, Int. J. Mass transfer, Vol. 40, No. 13, pages 3079-3088, printed in Great Britain.					
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BA	Snezana Konecni et al., "Convection Cooling of Microelectronic Chips", 1992, InterSociety Conference on Thermal Phenomena, pages 138-144.					

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Paper No. 20040401

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-01901		Serial No.: 10/731,674	
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OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)							
	BB	Michael B. Kleiner et al., "High Performance Forced Air Cooling Scheme Employing Microchannel Heat Exchangers", 1995, IEEE Transactions on Components, Packaging, and Manufacturing Technology-Part A, Vol. 18, No. 4, pages 795-804.					
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EXAMINER:		Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

Paper No. 20040401

FORM PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-01901

Serial No.: 10/731,674

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Use Several Sheets if Necessary)

Applicants: Daniel J. Lenchan et al.

Filing Date: December 8, 2003

Group Art Unit: 3253 3744

(37 CFR § 1.98(b))

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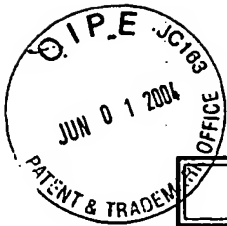
Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.


Paper No. 20040401



ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	PUMP AND FAN CONTROL CONCEPTS IN A COOLING SYSTEM																																																				
<p>Application Number: 10/731674 </p> <p>Confirmation Number: 4281</p> <p>First Named Applicant: Daniel Lenehan</p> <p>Attorney Docket Number:</p> <p>Search string: (5371529 or 5441613 or 5534471 or 5632876 or 5989402).pn.</p> <p>US Patent Documents</p> <p>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</p> <table border="1"><thead><tr><th>init</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td><input checked="" type="checkbox"/></td><td>1</td><td>5371529</td><td>1994-12-06</td><td>Eguchi et al.</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>2</td><td>5441613</td><td>1995-08-15</td><td>McCormick et al.</td><td></td><td></td><td></td></tr><tr><td><input type="checkbox"/></td><td>3</td><td>5534471</td><td>1996-07-09</td><td>Carolan et al.</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>4</td><td>5632876</td><td>1997-05-27</td><td>Zanzucchi et al.</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>5</td><td>5989402</td><td>1999-11-23</td><td>Chow et al.</td><td></td><td></td><td></td></tr></tbody></table> <p>Signature</p> <table border="1"><thead><tr><th>Examiner Name</th><th>Date</th></tr></thead><tbody><tr><td><i>AVCm</i></td><td><i>1-8-07</i></td></tr></tbody></table>		init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass	<input checked="" type="checkbox"/>	1	5371529	1994-12-06	Eguchi et al.				<input type="checkbox"/>	2	5441613	1995-08-15	McCormick et al.				<input type="checkbox"/>	3	5534471	1996-07-09	Carolan et al.				<input checked="" type="checkbox"/>	4	5632876	1997-05-27	Zanzucchi et al.				<input checked="" type="checkbox"/>	5	5989402	1999-11-23	Chow et al.				Examiner Name	Date	<i>AVCm</i>	<i>1-8-07</i>
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Paper No. 20040601

FORM PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-01901

Serial No.: 10/731,674

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Use Several Sheets If Necessary)

Applicants: Daniel J. Lenchan et al.

(37 CFR § 1.98(b))

Filing Date: December 8, 2003

Group Art Unit: ~~3753~~ 3744

U.S. PATENT DOCUMENTS

Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
JK	AA	3,267,859	08/23/66	S. T. Jutila	103	1	02/18/64
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Examiner:

AKC

Date Considered:

1-8-07

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Paper No. 2004 0924

FORM PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-01901

Serial No.: 10/731,674

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Applicants: Daniel J. Lenehan et al.

(37 CFR § 1.98(b))

Filing Date: December 8, 2003

Group Art Unit: ~~3753~~ 3744

U.S. PATENT DOCUMENTS

Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
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Examiner:

Date Considered:

EXAMINER:

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Paper No. 20041008

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

**Title of
Invention**

PUMP AND FAN CONTROL CONCEPTS IN A COOLING
SYSTEM

Application Number : 10/731674
Confirmation Number: 4281
First Named Applicant: Daniel Lenehan
Attorney Docket Number:
Art Unit:
Examiner:
Search string: (6438984 or 6581388 or 6587343).pn



Certification: This Information Disclosure Statement was submitted under the following conditions, which satisfies the requirement under 37 CFR 1.97(e). The filer certified:

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement.

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
AK	1	6438984	2002-08-27	Novotny et al.	B1	—	—
I	2	6581388	2003-06-24	Novotny et al.	B2	—	—
I	3	6587343	2003-07-01	Novotny et al.	B2	—	—

Signature

Examiner Name	Date
<i>AK</i>	1-8-07

Paper No. 2005 02 01

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

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Title of Invention

PUMP AND FAN CONTROL CONCEPTS IN A COOLING
SYSTEM

Application Number : 10/731674
Confirmation Number: 4281
First Named Applicant: Daniel Lenehan
Attorney Docket Number:
Art Unit:
Examiner:
Search string: (20020121105 or 20030121274 or 20040040695 or 20040089008).pn



Certification: This Information Disclosure Statement was submitted under the following conditions, which satisfies the requirement under 37 CFR 1.97(e). The filer certified:

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement.

US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
AK	1	20020121105	2002-09-05	McCarthy, Jr. et al.	A1	—	—
V	2	20030121274	2003-07-03	Wightman	A1	—	—
V	3	20040040695	2004-03-04	Chesser et al.	A1	—	—
V	4	20040089008	2004-05-13	Tilton et al.	A1	—	—

Signature

Examiner Name	Date
AVC	1-8-07

Paper No. 20050317

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention

PUMP AND FAN CONTROL CONCEPTS IN A COOLING
SYSTEM

Application Number : 10/731674



Confirmation Number: 4281

First Named Applicant: Daniel Lenehan

Attorney Docket Number:

Art Unit:

Examiner:

Search string: (0596062 or 2273505 or 4211208 or 6397932 or 20020075645).pn

Certification: This Information Disclosure Statement was submitted under the following conditions, which satisfies the requirement under 37 CFR 1.97(e). The filer certified:

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
ARC	1	0596062	1897-12-28	W. P. Firey	—	—	—
I	2	2273505	1942-02-17	R. R. Florian	—	—	—
J	3	4211208	1980-07-08	Lindner	—	—	—
V	4	6397932	2002-06-04	Calaman et al.	B1	—	—

US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
ARC	1	20020075645	2002-06-20	Kitano et al.	A1	—	—

Signature

Examiner Name	Date
ARC	1-8-07

Paper No. 20050803

FORM PTO-1429 (Modified) AUG 08 2005 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary) (37 CFR § 1.98(b))		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-01901		Serial No.: 10/731,674	
				Applicants: Daniel J. Lenehan et al.			
				Filing Date: December 8, 2003		Group Art Unit: 3753 3744	

U.S. PATENT DOCUMENTS							
Examiner Initials	Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date	
	AA						
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FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS								
	Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation		
						Yes	No	
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<i>AL</i>	AL	JP 2001-326311	11/22/01	JP	H01L	23/427		X
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Examiner: <i>AKC</i>	Date Considered: <i>1-8-07</i>
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Paper No. 20050808

FORM PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-01901

Serial No.: 10/731,674

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(See Remarks for Sheets If Necessary)

Applicants: Daniel J. Lenehan et al.

Filing Date: December 8, 2003

Group Art Unit: 3253 3744

(37 CFR § 1.98(b))

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Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
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	AC	5,901,037	5/4/99	Hamilton et al.	361	699	6/18/97
	AD	6,103,199	8/15/00	Bjornson et al.	422	100	9/15/98
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Paper No. 2006 0221



FORM PTO-349 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-01901		Serial No.: 10/731,674		
INFORMATIONAL CLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicants: Daniel J. Lenehan et al.				
(37 CFR § 1.98(b))				Filing Date: December 8, 2003		Group Art Unit: 3753 3744		
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Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date	
<i>AVC</i>	AA	2005/0084385 A1	4/21/2005	Corbin et al.	417	53	10/18/2004	
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							Yes	No
<i>AVC</i>	AM	WO 2004/036040 A1	4/29/2004	PCT	F04B	17/00		X
<i>V</i>	AN	WO 2004/076857 A3	9/10/2004	PCT	F04B	37/02		X
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Examiner: <i>AVC</i>				Date Considered: <i>1-8-07</i>				
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

Paper No. 2006 0530

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-01901		Serial No.: 10/731,674	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicants: Daniel J. Lenehan et al.			
(37 CFR § 1.98(b))				Filing Date: December 8, 2003		Group Art Unit: 3744	

U.S. PATENT DOCUMENTS							
Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
↓	AA	5,564,497	10/15/96	Fukuoka et al.	165	152	11/03/95
	AB	5,810,077	09/22/98	Nakamura et al.	165	153	02/20/97
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Examiner: <i>W. Curie</i>	Date Considered: 1-8-07
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Paper No. 20060626